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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,608	11/14/2003	Vincent M. Kane	18087	2527

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EXAMINER	
BUI, HUNG S	

ART UNIT	PAPER NUMBER
2841	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/713,608	KANE, VINCENT M.	
	Examiner	Art Unit	
	HUNG S. BUI	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11/14/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 14 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. [US 5,998,738] in view of Ward et al. [US 6,139,373].

Regarding claim 1, Li et al. disclose an electronic module (40, figure 6, column 4, line 26), comprising:

- a casing (42, figure 5, column 4, line 39) defining a cavity therein (a space created by the housing 42 and two side walls 14, 15 and 16 as shown in a figure 7), the casing having at least one opening (44, figure 5, column 4, line 34) therethrough for communication with the cavity;
- a substrate (18, figure 5, column 4, line 41) received in the cavity, the substrate having a plurality of through holes (see attached figure 5 below) positioned adjacent to and overlapping with the opening;
- a connector header (36, figures 5-6, column 4, line 29) positioned over the casing opening, the connector having a plurality of electrical terminals (38, figures 4-6, column 3, line 60), with first portions positioned exterior of the cavity (a plurality of electrical terminal portions protruded outward as shown in figure 6), and second portions extending into the cavity (a plurality of electrical

terminal portions protruded into the cavity as shown in the figures 4 and 7) and into the through holes of the substrate forming an electrical and mechanical connection therewith.

Li et al. disclose the instant claimed invention except for wherein the mechanical connection at least partially retains the connector header and substrate to the casing.

Ward et al. disclose an electronic connector (figure 2) having a plurality of electrical terminals (20, figure 2, column 3, line 51), with first portions protruded outward into the electrical connector (22, figure 2, column 3, line 52) and a second portions (24, figure 2) extending into a plurality of through holes being mounted on a substrate (11, figure 2, column 3, lines 39-40) forming an electrical and mechanical connection (column 3, line 63 to column 4, line 2) and a pair of securing element (two elements disposed from a left and right side of the plurality of contacts 24, figure 2), wherein the mechanical connection at least partially retains the connector and the substrate together (see figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the electrical and mechanical terminal pin design of Ward et al. instead of the pins of Li et al., for the purpose of providing electrical and mechanical terminal contact in the connector.

Regarding claim 14, the recited method steps would necessarily be performed in the assembly of the above-mentioned system as claim 1.

Regarding claim 25, Li et al., as modified, disclose wherein the connector header, casing and substrate are attached to each other simultaneously (see figures 5-7).

Regarding claim 26, Li et al., as modified, disclose wherein the connector header casing and substrate are attached to each other by a single movement towards each other along the mating axis (see figures 5-7).

3. Claims 2-13 and 15-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al., as modified, as applied to claim 1 above, and further in view of Pratt et al. [US 6,652,292].

Regarding claim 2, Li et al., as modified, disclose a planar wall (15, figure 5, column 4, line 21) having a plurality of upstanding walls (14 and 16, figure 5) the opening extending through the planar wall.

Li et al., as modified, disclose the instant claimed invention except for the upstanding walls being a peripheral extending from the planar wall to create a cavity.

Pratt et al. disclose a planar wall (28, figure 3, column 3, line 37) having at least one through opening (20, figure 3, column 3, line 32); the planar wall having a peripheral walls (16, figure 4, column 3, line 31) extending therefrom to create a cavity (a cavity as shown in the figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cavity design of Pratt et al. for the casing of Li et al., as modified, for the purpose of protecting substrate with components therein the casing.

Regarding claim 3, Li et al., as modified, disclose wherein the terminal second portions are compliant pin sections (see figure 7).

Regarding claim 4, Li et al., as modified, disclose wherein the substrate is a printed circuit board, and the through holes are plated and interconnected to traces on the circuit board (see figure 5).

Regarding claim 5, Li et al., as modified, disclose at least one component (26, figure 5, column 2, line 57) being mounted on the circuit board (see figure 5).

Regarding claim 6, Li et al., as modified, disclose the instant claimed invention except for wherein the casing further comprises an upstanding sealing wall in a surrounding relation to the opening.

Pratt et al., further disclose the casing comprising an upstanding sealing wall (38, figure 3, column 3, lines 46-47) in a surrounding relation to the opening (see figure 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the sealing wall design of Pratt et al. with the opening of the casing of Li et al., as modified, for the purpose of providing seal the opening of the casing.

Regarding claims 7-8, Li et al., as modified, disclose the instant claimed invention except for the connector header has a sealing groove with a complementary geometry as the upstanding sealing wall and is received therein.

Pratt et al. disclose the casing having a sealing groove (22, figure 3, column 3, line 33) including a seal member (36, figure 3, column 3, lines 44-45) with a complementary geometry as the upstanding seal wall and being received therein.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the groove design of Pratt et al. in Li et al., as modified, for the purpose of aligning and sealing the connector header with the casing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the groove seal wall on the connector header of Li et al., as modified, as suggested by Pratt et al., since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Regarding claim 9, Li et al., as modified, disclose the instant claimed invention except for the connector header having a mounting surface which extends at least partially into the opening.

Pratt et al. disclose the connector header having amounting surface (38, figure 5, column 3, line 47) which extends at least partially into the opening (see figure 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flange design of the connector header of Pratt et al., in Li et al., as modified, for the purpose of providing an abutment of the mounting surface of the connector header relative to the opening of the casing (column 3, lines 46-49).

Regarding claim 10, Li et al., as modified, disclose wherein the header mounting surface is adhesively fixed to the substrate (31, see figure 7, column 3, lines 58-59).

Regarding claims 11 and 13, Li et al., as modified, disclose wherein the header mounting surface is adhesively fixed to the casing (column 4, lines 60-64).

Regarding claim 12, Li et al., as modified, disclose the instant claimed invention except for the casing having at least two openings connected together by at least a strap portion, the connector having raised portions being connected to the openings.

Pratt et al. disclose the casing has two elongate openings (20, figure 3), with an intermediate strap portion (the strap portion between any two openings 20 and including the inner wall), the connector header having raised portions (34, figure 3, column 4, line 13) adjacent the compliant pin portions, received in the openings and a mounting portion intermediate the raised portion, received in the openings, and a mounting portion intermediate the raised portions (54, figure 3, column 4, line 4, lines 21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the strap design of Pratt et al., in Li et al., as modified, for the purpose of providing a support to mount the connector header onto the casing.

Regarding claims 15-16, the recited method steps would necessarily be performed in the assembly of the above-mentioned system as claims 2-3.

Regarding claims 17-24, the recited method steps would necessarily be performed in the assembly of the above-mentioned system as claims 6-13.

Response to Arguments

4. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Maejima et al. [US 7,125,285] disclose joint connector; and
- Hashimoto et al. [US 7,210,969] disclose press-fit fixing terminal and electronic component having the same terminal.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hung S. Bui/
Primary Examiner, Art Unit 2841
04/27/2008